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ON NARCOTICS

[Following is a translation of an article by Ernst Rothstein, Ph.D., in the German-language periodical Arzt und Apotheker (Pharmacist's Journal), Berlin, Vol. XLIII, No. 42, 23 May 1928, pages 603-605.]

(Editor's Note: In February of this year [1928] the author delivered a lecture before a Berlin scientific association interested in the national economy, in which he cast light on the problem of "Narcotics and Addiction" from the world economic and sociological point of view. We are presenting those remarks of his that might be little known to our readers and might be of interest to them.)

The difficulties that are associated with combating the misuse of narcotics are based mainly on the fact that narcotics are not only narcotics but also, at the same time, indispensable medicines or their raw materials. Thus opium is at the same time the principal Mohammedan-Asian narcotic and the basic product for that series of medicaments among which morphine and heroin again occupy a dual position as narcotic and as medicine. The home of poppy cultivation and opium production is that ~~Eastern Asia Minor~~ southeast corner of the Mediterranean Sea from where, according to Kuhn's well-known clear statements, so many of our valuable cultivated plants have come. Poppy raising and opium production migrated first of all, indeed quite late, westward from Asia Minor to the Balkan peninsula, then eastward, together with Islam, over all Asia, first to Persia and from there, in two streams, over Afghanistan and Turkistan to North and Central China and over India and Southeast Asia to South China.

After England had secured itself, in the so-called opium wars, the right to import opium in China, its export from India to China rose sharply until the year 1858. It remained constant from 1858 to 1892. This constancy means a relatively sharp decline, for the Chinese consumption of opium was growing continuously, was being met, however, by its own production of opium that was expanding from year to year on an increasing scale. Since 1893, the export of opium from India to China was absolutely

the target of an extensive smuggling trade from the other Asiatic spheres of production. In those times when it was still legal for China to buy Persian opium, it moved over Meshed and Herat, through Afghanistan and Buchara to Cohan and further to Kashgar. Opium from Asia Minor accompanied the Persian opium, which at present follows the same route, but in illegal trade. Along the way Afghan opium is added to it, for at present Afghanistan is also a production area, as is Russian Turkistan also. There has always existed there a limited, although prohibited, production of opium. In the war, the Russian government encouraged poppy growing which quickly expanded and overlapped into Chinese Turkistan. To be sure still no poppies are grown in Chinese Turkistan. However, annually thousands of Chinese, Moslem Chinese and Turkomans cross the borders in order to grow poppies in the vicinity of Dzarkent. On their return home, they bring the drug into Chinese Turkistan. A report made by the British Consul General in Kashgar describes extraordinarily graphically how, on the one hand, the Persian and Afghan product and, on the other hand, the Turkoman opium are smuggled into China. Since the border between Russian and Chinese Turkistan is only tended here and there by Chinese troops, the merchandise is transported over unfrequented passes through Russian Pamir. Kirghiz serve as guides and provide the means of transportation. In Yarkand and Yangi-Hissar, two opium trading centers in Chinese Turkistan, where the merchandise caravans end, the opium is sold already quite openly. Principal trading places are Urumchi and Kashgar. Since Chinese officials are interested in this trade, nothing is done, naturally, to suppress it. The merchandise that is produced in Russian Turkistan usually goes in caravans from Przhevalsk to Uch-Turfan. This trade is in the hands of Kirghiz and Moslem Chinese, who exchange the opium in Uch-Turfan for cotton material, footwear, wool and English yarn and muslin.

Finally, China is also favored with opium from the north. After the war, Vladivostok has become a center of opium consumption and trading, in the vicinity of which poppy growing and opium extraction is engaged in. Vladivostok obtains opium from Persia and Asia Minor principally by water from the Persian port of Bushire; in part also by land over Siberia. Outbound from Vladivostok, the narcotic is smuggled to China along the South Manchurian railway. Business was going along so splendidly that there was thought about setting up an opium monopoly, and the people to whom it was transmitted, Koreans, had, it may be said, the impudence to make a request of India to supply 90,000 kg. of opium, which was, naturally, refused.

In India, the Moguls already had an opium monopoly which the East India Company took over after its victory and which passed over to the British-Indian government after its dissolution. However, this monopoly included only the provinces of Bengal, Agar and Oudh. The cultivation of poppies in these provinces takes place only under license. All opium must be turned over to the government at fixed prices. The government does not allow the opium growers a greater profit than they might have had by cultivating other field-produce, but it encourages its cultivation by granting advances. The collected juice goes to the government factory

in Chazipur and is processed there. The export opium is mostly sold directly to other Asiatic government opium monopoly administrations; the rest is sold by auction in Calcutta. In addition to the monopoly opium that is also called Bengal opium, there is the so-called mallow opium that comes from certain native states and from the states under the control of the Rajputana Agency. In these regions, poppy growing and opium extraction is free. Poppy raising lands have been decreasing since 1906 in the monopoly area, due to the Chinese opium prohibition. This decline was interrupted only during the war, when England was shut off from the Persian, Turkish and Balkan markets. In the same way the export of opium from India has been declining annually, not only in comparison with the highest figures, but also after the war. Mallow opium which formerly went in large amounts to China, is as good as no longer exported. It serves mainly for consumption in the states in which it is produced. Certain amounts are taken over annually by the monopoly administration.

It must be mentioned by way of completeness that Burma, French Indo-China, Siam, Japan and Egypt pursue poppy cultivation and opium extraction on a small scale.

Now, with regard to consumption. There are opium-consuming countries, India and Persia; countries in which opium is eaten and smoked, Burma and Ceylon. In all the other Asiatic countries, it is smoked, and among these countries China is the leader. Japan is the only country in Asia that has never become acquainted with opiumania in its borders. The Philippines and Formosa should pass as cured. While raw opium itself is used for eating, for smoking it must undergo a simple manufacturing process. In order to obtain smoking opium, so-called chandu, raw opium is dissolved, cooked and fermented. This takes place partly in government factories; traders and consumers themselves partly undertake its production. The Chinese are especially addicted to opium, and as a result of this a social problem comes up for the other Asiatic countries that are dependant on coolie labor. The coolies come only if they receive their narcotic, and then they infect the native population that might have wanted to be kept free from the misuse of opium. In this respect, the conditions in Burma are especially characteristic. As bad as things are in China, consumption is definitely no longer as high as before the 1906 prohibition of opium.

While England should not be held solely responsible for the present-day conditions in the Far East, (the key to the situation in China lies there now), India, on the other hand, has been burdened with a serious guilt. In India, opiumania is a serious social problem for which the responsibility falls on the British-Indian government, for, as we have already seen, it has a firm grip on opium production and distribution. The per capita consumption of opium in India is indeed not bad, but there is no basis for reassurance. The rural population is almost entirely free from addiction, doubtless due to strict religious obligations. On the contrary, it is bad in the industrial cities, as well as in Assam and Burma, and what is worst of all, consumption is increasing. This is doubtless mainly attributable to the fact that among women employed in the cotton industry the practice of "tranquillizing" their

children with opium before they go to work is spreading. This so-called "doping" of the children is practised by 98% of these mothers and is doubtless the cause of the absolutely appalling children's mortality in the Indian industrial districts. While the average consumption in India amounts to 24 English pounds per 10,000 inhabitants annually, industrial centers like Calcutta and Rangoon consume 288 and 216 pounds, respectively.

It would be false to assume that the consumption of opium as a narcotic has remained confined to Asia. We disregard the fact that in almost all port cities that have traffic with East Asia there are places in which a Chinese seaman finds his narcotic (in England these places have been legal even up to a short time ago), and we disregard the fact that many Europeans have become addicted in East Asia and, on their return to Europe, can no longer give up the narcotic. However, at the beginning of the 19th century England experienced an epidemic of opiophagy which at that time was as wide-spread in the highest society circles as among the young factory workers. And if Liverpool still demanded, in the year 1913, energetic laws against opium, it may be well assumed from that, that addiction in England is still not yet completely extinguished. In the United States, which is especially susceptible to addictions, opium smoking has even appeared epidemically among the white inhabitants. Chandu was brought in officially until 1909, and, in fact, this importation increased seven times from 1860 to 1900, the total population increased two and one half times, the Chinese population merely doubled. Before the prohibition of importing chandu, the number of smokers is estimated at 100,000 to 150,000. New Orleans, New York, San Francisco and Albany were consumption centers. In addition to the legal importation, there was smuggling import, that at present is not yet extinct, from Canada where there is a chandu factory in Chinese hands.

Whereas up to now we have considered the production of opium that is used directly as a narcotic, we come now to those countries that produce opium solely, or for the most part, as the raw material for manufacturing morphine. European, Asia Minor and Persian opium comes above all into question as raw material for the manufacture of morphine, since these varieties have a far higher morphine content than the other Asiatic types. Poppy growing and opium extraction have spread considerably on the Balkan Peninsula, especially in Macedonia, only in the second half of the 19th century. Before the war, Greece was the leader among the Balkan states, but it has lost this position. The export of Greek opium takes place through Salonika and Kavalla. The Bulgarian production was always relatively insignificant and went from times immemorial to Constantinople, where it comes on the market together with the Turkish production and as a Turkish commodity.

The focal point of poppy growing and opium production on the Balkan Peninsula lies today in Yugoslavia.

The most important opium extraction region for further processing into morphine is the ancient homeland of opium extraction, Asia Minor. The regions of Konya and Afium-Karahissar ("Opium-Blackburg") are extraction centers. Before the war, the main outbound port for opium was

Smyrna. After the Anatolian railway was built, Constantinople began to attract part of the output to itself, and at present two-thirds of the output is traded in Constantinople and only one-third in Smyrna. In Asia Minor, as in Yugoslavia, by-product industries have affiliated with the production of opium. In some places, the extraction of poppy oil is more important even than the production of opium. The poppy oil that is produced serves not only as a salad-oil but also as burning-oil and as raw material in the soap and varnish industries. Some of the poppy seeds are exported for oil-paint manufacturing. The opium market is extraordinarily unstable and speculative. During the war, Germany and Austria controlled it, naturally. Immediately after the Armistice, Japan cornered it; at present, the United States, England and Germany are the principal buyers. Moreover, London is the greatest international trading post for opium and derives therefrom considerable advantages for its manufacture of alkaloids.

If we now treat Persia as the last of the opium producing regions, it must be made clear that only part of the Persian opium is used for manufacturing morphine. The greatest part is consumed domestically as a narcotic and, as we have already seen, goes to the Far East for the same purpose. Persia, as a supplier of raw material, appears to be affected primarily by the decline in world production of alkaloids that has occurred in recent years. In the last few years, larger lots of Persian, and also of Asia Minor, opium are repeatedly reported to be no longer saleable in London and therefore have to be sent back. Then, naturally, they were smuggled to China. If we disregard the production of petroleum, the extraction of opium in Persia has definitely become the pivotal industry. Except in the northern part of the country and on the Persian Gulf, poppies are grown everywhere. In many provinces, opium is the only product that is generally profitable. One of the principal cities in Persia, Isfahan, is a true opium city. Before the Chinese production of opium, the greater part of the Persian commodity migrated to China, partly by land, partly by water; later increasing amounts migrated over Kermanshah, Bagdad, Erzurum and Trabzon to Constantinople and from there specially to London. Even at present very considerable amounts are still loaded in the Euphrates River basin, especially in Bushire. Bushire is, at present, the most important point of departure of the illegal opium trade.

The reverse side of the coin now is the constantly increasing consumption of opium domestically, so that the Persian government undertook to combat it in the year 1910. In order to control consumption, a government monopoly was to be established and all opium was to be sent to government warehouses and worked up there exclusively. As a result of the war, the laws were not executed. The measures encountered the strongest resistance of the population, and they succeeded in compelling the delivery of the juice to the government warehouses in only a few provinces. The matter was taken up again only in 1922 together with revision of the budget. Centralization was successful in some provinces. Serious riots occurred in Isfahan on account of that. A general strike prevailed for one month. About 7,000 farmers moved into the city and by way of

protest occupied the telegraph office. Order could be restored and the execution of the laws compelled only after declaration of a state of war and after bloody battles. Since then, centralization has progressed and everywhere an inspection system for production and transportation has been put into effect. Recently a monopoly is being planned again in connection with a tax reform. If they want to restrict poppy growing and opium extraction in Persia, they must first of all improve the means of transportation, so that definitely more profitable products can come to the market. It is necessary to expand the irrigation system, because any other product needs more and regulated water than the poppy. The farmers should be retrained and supplied with agricultural equipment; new occupation possibilities should be created for labor and capital employed at present in opium production; and, finally, the Persian government should get time to change their taxation system which is based at present, for the most part, on opium. All that, naturally, requires considerable resources.

These matters have been described in so much detail, in order to show what difficulties there would be if there were an earnest desire to set about reducing the production of opium in Europe, Asia Minor and Persia, which is greatly in excess of the medical and scientific requirement.

When England was shut off from these markets during the war, it imported, as we already mentioned, Indian opium for morphine production. This commodity, however, is not processed systematically, but the English alkaloid factories have become accustomed to it and import the commodity partly in the form of raw morphine that is produced in Ghazipur by the Indian opium monopoly administration doubtless more for imperialistic and politico-economical reasons.

The alkaloid factories are now producing morphine from the above-described raw material. Before the war, Germany and England controlled the world market and they had indeed so divided it up that England supplied the Far East and Germany the rest of the world. Also after the war, England and Germany are leaders in the production. The United States and Japan have typically come up to them. Switzerland, France, Holland and Hungary also produce morphine, and, India among the Asiatic countries, as we already mentioned. Just like India, Japan had established its production of morphine in the mother-country, in Formosa and in Korea, on the basis of domestic raw opium. China and Persia have not been able to put similar plans in effect. On the whole, the production of morphine has been declining in recent years.

As is well-known, morphine is the basic product for the most dangerous of all narcotics, diacetylmorphine, which was discovered in 1898 in the dye factories, formerly Friedrich Bayer & Co., that belong today to the I. G. Farbenindustrie, and for which the name "heroin" was created at that time. While before the war Germany doubtless had, naturally, a production monopoly, after the war it has also been produced in England, France, Switzerland, the United States where, meanwhile, its production has been prohibited, and Japan. Its production in Japan was quite stupendous and indeed the greater part of it has been smuggled to China and

the United States. Since 1915, it has driven back cocaineism in the United States in such a way that of the one to four million addicts reported to exist there approximately at least 75% use diacetylmorphine. According to experiments that have been made with it, heroin probably develops criminal tendencies in its addicts still more than cocaine, and, therefore, in the United States it is probably the most socially dangerous of all narcotics.

The most interesting of all narcotics sociologically is cocaine. As is generally known, it comes from the leaves of the coca plant (Erythroxylon coca and Erythroxylon novogranatense).

Already when the Spaniards were conquering the empire of the Incas, they found extensive coca cultivation. The plant played a great part in the religious and political life; the leaves were a very important trading product. After the Spaniards had at first attempted to eradicate the cultivation and use of coca because of its connection with the heathen cult, they took over its cultivation and derived a stupendous profit therefrom. The development of La Paz, capital of Bolivia, is very closely dependent on coca growing. Its cultivation only achieved worldwide economic importance when, in the middle of the 1880's, it was introduced into ophthalmology. A strong demand for coca leaves was immediately established, and a considerable export started up from Peru. Hamburg was on top by far, since Germany had almost monopolized the production of cocaine until the outbreak of the war. A large part of the coca leaves arrived spoiled, due to the long transportation, with the result that an industry came into existence in Peru that extracted raw cocaine from the leaves and exported it. Hamburg and New York were also the principal trading centers for this product. The raw cocaine industry, in which German capital was also invested, was oriented in its location either by the raw material or by the shipping points and in this case it dragged coca cultivation after it. This industry has its development period far behind it, just as the export of coca products from Peru has fallen off considerably. They have been supplanted in the world market by Dutch East Indian production.

Coca cultivation was first established in Java in 1886. They succeeded in increasing the cocaine content of the leaves from 10% to 15%. They were able to bring the commodity without loss to the places of production, by means of proper treatment and packing of the leaves. For special reasons a raw cocaine industry could not be developed in Java as in Peru. Since the Dutch government strongly encouraged its cultivation and the Javanese planters were firmly united in a combine at the head of which was the Coca Bureau in Amsterdam, the Javanese product achieved a complete victory in the world market. Due to this development, the position of Hamburg as principal trading center passed over to Amsterdam, especially also since Germany during the war could not maintain its cocaine production monopoly. The neutral countries (Holland and Switzerland) created for themselves in the war a considerable cocaine industry, and at present France, the United States and Japan are also producers, in addition to the already mentioned countries.

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